

BEHAVIOR GENETICS—Volume 9, 1979

An International Journal Devoted to Research in the Inheritance of Behavior in Animals and Man

Published in cooperation with the Behavior Genetics Association

A journal dealing with the inheritance and evolution of behavioral characters in man and other species. Papers deal with the application of the various perspectives of genetics to the study of behavioral characters and with the influence of behavioral differences on the genetic structure of populations. In addition to papers reporting original studies, the journal publishes critical reviews and theoretical papers relevant to behavior genetics. Short communications, letters to the editor, and news sections are also included.

EDITORS

Jan H. Bruell (Executive)
Department of Psychology
University of Texas
Austin, Texas

Norman D. Henderson
Department of Psychology
Oberlin College
Oberlin, Ohio

Gilbert S. Omenn
Department of Medical Genetics
University of Washington
Seattle, Washington

Irving I. Gottesman
Department of Psychology
University of Minnesota
Minneapolis, Minnesota

John C. Loehlin
Department of Psychology
University of Texas
Austin, Texas

John M. Ringo
Department of Zoology
University of Maine
Orono, Maine

EDITORIAL ADVISORY BOARD

V. Elving Anderson
University of Minnesota
Minneapolis, Minnesota

John L. Fuller
State University of New York
Binghamton, New York

Newton E. Morton
University of Hawaii
Honolulu, Hawaii

R. Darrell Bock
University of Chicago
Chicago, Illinois

Benson E. Ginsburg
University of Connecticut
Storrs, Connecticut

Peter A. Parsons
La Trobe University
Melbourne, Australia

P. L. Broadhurst
University of Birmingham
Birmingham, England

David A. Hamburg
Stanford University School
of Medicine
Stanford, California

T. Edward Reed
University of Toronto
Toronto, Ontario, Canada

Ernst W. Caspary
University of Rochester
Rochester, New York

Kenneth R. Henry
University of California
Davis, California

R. C. Roberts
Institute of Animal
Genetics
Edinburgh, Scotland

Peter S. Dawson
Oregon State University
Corvallis, Oregon

Jean Hiernaux
Laboratoire d'Anthropologie
Paris, France

Kurt Schlesinger
University of Colorado
Boulder, Colorado

John C. DeFries
University of Colorado
Boulder, Colorado

Jerry Hirsch
University of Illinois
Urbana, Illinois

William J. Schull
University of Texas at Houston
Houston, Texas

Bruce K. Eckland
University of North Carolina
Chapel Hill, North Carolina

Gardner Lindzey
Center for Advanced Studies
Palo Alto, California

Delbert D. Thiessen
University of Texas
Austin, Texas

Lee Ehrman
State University of New York
Purchase, New York

Aubrey Manning
University of Edinburgh
Edinburgh, Scotland

William R. Thompson
Queens University
Kingston, Ontario, Canada

J. Merritt Emlen
Indiana University
Bloomington, Indiana

Gerald E. McClearn
University of Colorado
Boulder, Colorado

J. H. F. van Abeelen
University of Nijmegen
Nijmegen, Netherlands

Arthur Falek
Georgia Mental Health Institute
Atlanta, Georgia

Victor A. McKusick
Johns Hopkins Hospital
Baltimore, Maryland

Steven G. Vandenberg
University of Colorado
Boulder, Colorado

David W. Fulker
University of Birmingham
Birmingham, England

David J. Merrell
University of Minnesota
Minneapolis, Minnesota

Lee Willerman
University of Texas
Austin, Texas

Behavior Genetics is published bimonthly by Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. Subscription orders should be addressed to the publisher. *Behavior Genetics* is abstracted or indexed in Biological Abstracts, Current Contents, Excerpta Medica, Index Medicus, International Abstracts of Biological Sciences, Marriage and Family Review, Psychological Abstracts, Referativnyi Zhurnal, Science Citation Index, Social Sciences Citation Index, and The Psychological Reader's Guide. © 1980 Plenum Publishing Corporation. *Behavior Genetics* participates in the program of Copyright Clearance Center, Inc. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the stated per-copy fee through the Copyright Clearance Center, Inc. for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. It does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts.

Subscription rates:

Volume 9, 1979 (6 issues) \$79.00 (outside the U.S., \$90.00).
Volume 10, 1980 (6 issues) \$89.00 (outside the U.S., \$101.00).

Second-class postage paid at New York, N.Y., and at additional mailing offices.

Printed in USA.

Behavior Genetics is published bimonthly by Plenum Publishing Corporation, 227 West 17th Street, New York, N.Y. 10011. Subscription orders should be addressed to the publisher. *Behavior Genetics* is abstracted or indexed in Biological Abstracts, Current Contents, Excerpta Medica, Index Medicus, International Abstracts of Biological Sciences, Marriage and Family Review, Psychological Abstracts, Referativnyi Zhurnal, Science Citation Index, Social Sciences Citation Index, and The Psychological Reader's Guide. © 1980 Plenum Publishing Corporation. *Behavior Genetics* participates in the program of Copyright Clearance Center, Inc. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the stated per-copy fee through the Copyright Clearance Center, Inc. for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. It does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts.

BEHAVIOR GENETICS

Vol. 9, No. 1

January 1979

CONTENTS

In Memoriam James Shields 1918-1978 <i>I. I. Gottesman</i>	1
A Maximum Likelihood Statistical Method for Analyzing Frequency-Dependent Fitness Experiments <i>W. Thomas Adams and George T. Duncan</i>	7
Familial Resemblance for Specific Cognitive Abilities <i>J. C. DeFries, R. C. Johnson, A. R. Kuse, G. E. McClearn, J. Polovina, S. G. Vandenberg, and J. R. Wilson</i>	23

SHORT COMMUNICATIONS

Dominance for Large Brains in Laboratory Mice <i>Norman D. Henderson</i>	45
Adaptiveness of a Rare Male Mating Advantage Under Heterosis <i>Robert C. Lacy</i>	51
Failure of the Twin Situation to Influence Twin Differences in Cognition <i>Steven G. Vandenberg* and Kenneth Wilson</i>	55
Genetics of Phototactic Behavior in <i>Drosophila ananassae</i> , a Member of the <i>melanogaster</i> Species Group <i>Therese Ann Markow and Laurie D. Smith</i>	61

ANNOUNCEMENTS	69
---------------	----

BEHAVIOR GENETICS

Vol. 9, No. 2

March 1979

CONTENTS

- Twin-Family Studies of Perceptual Speed Ability 71
*Richard J. Rose, Judy Z. Miller, Marilyn Dumont-Driscoll,
and Mary M. Evans*
- Behavioral Studies Using Genetically Defined Mice—A 87
Bibliography (July 1976–August 1978)
Richard L. Sprott and Joan Staats
- Social Class Correlations Among Adoptees and Their Biological 103
and Adoptive Parents
T. W. Teasdale

SHORT COMMUNICATIONS

- Selection for Flying Ability in *Tribolium castaneum* 115
Rafael Díez and Carlos López-Fanjul
- Genetic Analysis of Phototaxis Near the Upper Limit of the Visual 123
Spectrum of *Drosophila melanogaster*
C. P. Kyriacou and B. Burnet
- Relationship Between Larval Feeding Behavior and Viability in 129
Drosophila melanogaster and *D. simulans*
Seido Ohnishi

ANNOUNCEMENTS 135

CORRIGENDUM

- Influence of β -Alanine on Mating and Territorialism in *Drosophila* 137
melanogaster
M. E. Jacobs
-

BEHAVIOR GENETICS

Vol. 9, No. 3

May 1979

CONTENTS

- A Lod Score Method for Detecting Linkage on the X Chromosome
Between a Marker Locus and a Major Gene Locus for
a Quantitative Character 139
R. Darrell Bock and Richard Perline
- Inbreeding and Copulatory Behavior in House Mice: A Further
Consideration 151
*Donald A. Dewsbury, Joseph M. Oglesby, Sandra L. Shea,
and James L. Connor*
- A Gene-Imposed Nervous System Difference Influencing
Behavioral Covariance 165
Joseph P. Hegmann
- Intellectual Resemblance Among Adoptive and Biological
Relatives: The Texas Adoption Project 177
Joseph M. Horn, John C. Loehlin, and Lee Willerman
- A Survey of Intra- and Interspecific Variation for Pupation Height
in *Drosophila* 209
Therese Ann Markow

SHORT COMMUNICATIONS

- Interaction of Y-Chromosomal and Autosomal Gene(s) in the
Development of Intermale Aggression in Mice 219
Stephen C. Maxson, Benson E. Ginsburg, and Alice Trattner
- Ontogeny of Behavior in Mice Selected for Large Size 227
Pamela A. Mikuni and Donald J. Nash
- Oviposition Site Preference in *Drosophila* 233
Rollin C. Richmond and Janet L. Gerking

LETTERS TO THE EDITOR

- Dominance for Large Brains in Laboratory Mice: Reply to
Henderson 243
Martin E. Hahn and Sonja B. Haber
- Diagnosis of Zygosity in Twins: Reply to Lykken 245
Ronald S. Wilson

ANNOUNCEMENTS

247

CONTENTS

Inbreeding and Heterogamic Mating: An Alternative to Averhoff and Richardson	249
<i>Edwin H. Bryant</i>	
Genetic and Behavioral Studies of Female Sex Appeal in <i>Drosophila</i>	257
<i>Jean-Marc Jallon and Yoshiki Hotta</i>	
Behavior in Chimeric Mice Combining Differently Behaving Strains	277
<i>Muriel N. Nesbitt, M. Anne Spence, and Karla Butler</i>	
Sex Effect on the Risk of Mental Retardation	289
<i>David L. Pauls</i>	
Genetic Basis of Aristal Morphology in <i>Drosophila melanogaster</i> and Its Correlation with Behavior: Selection for Increased and Decreased Aristal Branching	297
<i>Donald W. Pyle and Rollin C. Richmond</i>	

SHORT COMMUNICATIONS

Genetic Selection for Avoidance Behavior in the Rat	309
<i>F. R. Brush, J. C. Froehlich, and P. C. Sakellaris</i>	
Phenotypic vs. Genotypic Sex and Cognitive Abilities	317
<i>J. Rovet and C. Netley</i>	

LETTERS TO THE EDITOR

Availability of Behaviorally Selected Strains of Rats	323
<i>P. L. Broadhurst</i>	
Reply: A Note on the Roman and Tryon Selected Lines of Rats	325
<i>Douglas Wahlsten and Hymie Anisman</i>	

ANNOUNCEMENTS

BEHAVIOR GENETICS

Vol. 9, No. 5

September 1979

CONTENTS

- Segregation Analysis of Family Data for 15 Tests of Cognitive Ability 329
G. C. Ashton, J. J. Polovina, and S. G. Vandenberg
- Genetic Correlation Between Open-Field Activity and Defecation: Analysis with the CXB Recombinant-Inbred Strains 349
David A. Blizard and D. W. Bailey
- Preference for Ethanol in *Drosophila melanogaster* Associated with the Alcohol Dehydrogenase Polymorphism 359
Douglas Cavener
- Intrafamilial Invariance and Parent-Offspring Resemblance in Spatial Abilities 367
Ruth Guttman and Ilana Shoham
- A Note on the Heritability of Memory Span 379
Arthur R. Jensen and Daniel Q. Marisi
- Recurrence Risks in Schizophrenia: Are They Model Dependent? 389
Lois A. Morton, Kenneth K. Kidd, Steven W. Matthysse, and Ruth L. Richards

SHORT COMMUNICATIONS

- Oviposition Site Preference for Substrate Temperature in *Drosophila melanogaster* 407
J. C. Fogleman
- Central Serotonergic Function and Behavior in the Maudsley Reactive and Nonreactive Strains: A Reevaluation 413
David A. Blizard and B. Liang
- Training in Behavioral Genetics: A Survey of BGA Members 419
Robert Plomin
- Inbreeding and Mating Patterns in *Drosophila pseudoobscura* 425
Jeffrey R. Powell and Lois Morton

LETTER TO THE EDITOR

- Note on Descendants of the Tryon Lines of Rats 431
Gordon M. Harrington

ABSTRACTS

- Behavior Genetics Association Abstracts 435

ANNOUNCEMENTS

489

CONTENTS

In Memoriam William Robert Thompson 1923-1979: A Personal Memoir <i>John L. Fuller</i> Development of Individual Differences of Cardiovascular Regulation in the Bailey Recombinant Inbred Mice <i>Gregory A. Harshfield and Edward C. Simmel</i> Multivariate Behavioral Genetic Analysis of Twin Data on Scholastic Abilities <i>Robert Plomin and J. C. DeFries</i> A Multivariate Twin Analysis of Within-Family Environmental Influences in Infants' Social Responsiveness <i>David C. Rowe and Robert Plomin</i> Twin Method: Defense of a Critical Assumption <i>Sandra Scarr and Louise Carter-Saltzman</i> Divergent Selection on Locomotor Activity in <i>Drosophila</i> <i>melanogaster</i>. I. Selection Response <i>F. R. van Dijken and W. Scharloo</i> Divergent Selection on Locomotor Activity in <i>Drosophila</i> <i>melanogaster</i>. II. Test for Reproductive Isolation Between Selected Lines <i>F. R. van Dijken and W. Scharloo</i> Divergent Selection on Locomotor Activity in <i>Drosophila</i> <i>melanogaster</i>. III. Genetic Analysis <i>F. R. van Dijken, M. P. J. W. van Sambeek, and W. Scharloo</i> SHORT COMMUNICATIONS Correlated Characters in Selection for Aggressiveness in Female Mice. II. Maternal Aggressiveness <i>Janet S. Hyde and Thomas F. Sawyer</i> Genetic Analysis of Lines Selected for Wing Vibration in <i>Drosophila melanogaster</i> <i>Janice McDonald</i> ANNOUNCEMENTS Referees for Volume 9 of <i>Behavior Genetics</i> Author Index to Volume 9 Subject Index to Volume 9	491 495 505 519 527 543 555 563 571 579 585 589 593 603
--	---